

AMENDMENTS TO THE CLAIMS

1-13. (Canceled)

14. (Currently amended) A method for crystallizing an organic acid comprising the steps of:

converting a part of organic acid crystals into an organic acid salt and dissolving the organic acid salt by adding a base to a liquid containing organic acid crystals, the liquid being obtained by adding an acid to a solution of an organic acid salt; and

adding an acid to the organic acid salt dissolved liquid.

15. (Currently amended) A method for crystallizing an organic acid comprising the steps of:

precipitating at least a part of total of the organic acid crystals that are precipitable, by adding an acid to a solution of an organic acid salt, so as to obtain a liquid containing the precipitated organic acid crystals;

converting a part of the precipitated organic acid crystals into an organic acid salt and dissolving the organic acid salt acid salt, by adding a base to a liquid the liquid containing the precipitated organic acid crystals; and

adding an acid to the organic acid salt dissolved liquid.

16. (Previously presented) The method as set forth in claim 14, wherein M defined below satisfies the following formula:

$$Q / (P \times Z) - 0.3 \leq M / (P \times Z) \leq Q / (P \times Z) - 0.03,$$

where:

M is a value obtained by dividing, by an equivalent weight (g) of the base, an amount (g) of the base being added;

Q is a value obtained by dividing, by an equivalent weight (g) of the acid, an amount (g) of the acid being added before the base is added;

P is an amount(g) of the organic acid salt in the solution containing the organic acid salt before the initial addition of the acid; and

Z is a value obtained by dividing a molecular weight of the organic acid salt in the solution of the organic acid salt before the initial addition of the acid, by the number of anionic functional groups included in one molecule of the organic acid salt.

17. (Previously presented) The method as set forth in claim 15, wherein M defined below satisfies the following formula:

$$Q / (P \times Z) - 0.3 \leq M / (P \times Z) \leq Q / (P \times Z) - 0.03,$$

where:

M is a value obtained by dividing, by an equivalent weight (g) of the base, an amount (g) of the base being added;

Q is a value obtained by dividing, by an equivalent weight (g) of the acid, an amount (g) of the acid being added before the base is added;

P is an amount(g) of the organic acid salt in the solution containing the organic acid salt before the initial addition of the acid; and

Z is a value obtained by dividing a molecular weight of the organic acid salt in the solution of the organic acid salt before the initial addition of the acid, by the number of anionic functional groups included in one molecule of the organic acid salt.

18. (Previously presented) The method as set forth in claim 14, wherein an amount of the organic acid crystals remained after the addition of the base is from 1 to 30 wt.% of the total of the organic acid crystals to be crystallized.

19. (Previously presented) The method as set forth in claim 15, wherein an amount of the organic acid crystals remained after the addition of the base is from 1 to 30 wt.% of the total of the organic acid crystals to be crystallized.

20. (Currently amended) A method for crystallizing an organic acid by adding an acid to a solution of an organic acid salt, wherein:

after organic acid crystals starts start being precipitated by the addition of the acid, so that a liquid containing the precipitated organic acid crystals is obtained.

the addition of the acid is carried out while a part of the precipitated organic acid crystals is being converted into the organic acid salt and the organic acid salt is being dissolved dissolved, by addition of a base to a liquid containing the precipitated organic acid crystals.

21. (Previously presented) The method as set forth in claim 20, wherein:

$M / (P \times Z)$  defined below satisfies the following formula:

$$Q / (P \times Z) - 0.3 \leq M / (P \times Z) \leq Q / (P \times Z) - 0.03,$$

where:

$M$  is a value obtained by dividing, by an equivalent weight (g) of the base, an amount (g) of the base being added;

$Q$  is a value obtained by dividing, by an equivalent weight (g) of the acid, an amount (g) of the acid being added before the base is added;

$P$  is an amount(g) of the organic acid salt in the solution of the organic acid salt before the initial addition of the acid; and

$Z$  is a value obtained by dividing a molecular weight of the organic acid salt in the solution of the organic acid salt before the initial addition of the acid, by the number of anionic functional groups included in one molecule of the organic acid salt.

22. (Previously presented) The method as set forth in claim 20, wherein:

the acid and the base are respectively added in reaction vessels being connected with each other, while liquid in the reaction vessels is circulated between the reaction vessels; and

an amount of the base is so adjusted that a value resulting from a formula  $L \times M / (T \times F \times P \times Z)$  is 0.5 or more and less than 1.5:

where:

P is an amount(g) of the organic acid salt in the solution of the organic acid salt before the initial addition of the acid;

Z is a value obtained by dividing a molecular weight of the organic acid salt, by the number of anionic functional groups included in one molecule of the organic acid salt;

M is a value obtained by dividing, by an equivalent weight (g) of the base, an amount (g) of the base being added;

T is an adding period (min);

F is an amount of the liquid circulated per unit period (ml/min); and

L is a logarithmic average (ml) of a maximum amount and a minimum amount of the liquid in this system.

23. (Currently amended) A method for producing organic acid crystals comprising the steps of:

converting a part of organic acid crystals into an organic acid salt and dissolving the organic acid salt by adding a base to a liquid containing organic

acid crystals, the liquid being obtained by adding an acid to a solution of an organic acid salt;

adding an acid to the organic acid salt dissolved liquid; and

isolating the organic acid crystals from the reaction liquid.

24. (Currently amended) A method for producing organic acid crystals, comprising the steps of:

precipitating at least a part of total of the organic acid crystals that are precipitable, by adding an acid to a solution of an organic acid salt, so as to obtain a liquid containing the precipitated organic acid crystals;

converting a part of the precipitated organic acid crystals into an organic acid salt and dissolving the organic acid salt acid salt, by adding a base to a liquid the liquid containing the precipitated organic acid crystals;

adding an acid to the organic acid salt dissolved liquid; and  
isolating the organic acid crystals from the reaction liquid.

25. (Currently amended) A crystallizing apparatus comprising:  
a crystallizing-reaction vessel;  
an acid supplying section for supplying an acid to the crystallizing-reaction vessel; and

a base supplying section for supplying a base supplying to the crystallizing-reaction vessel, a base for dissolving a part of crystals precipitated by crystallization in the crystallizing-reaction vessel,

the acid supplying section and the base supplying section being so arranged that the acid and the base are respectively supplied to positions of the crystallizing-reaction vessel, the positions being located at a distance from each other.

26. (Currently amended) A crystallizing apparatus comprising:  
a first reaction vessel having an acid supplying section;  
a second reaction vessel having a base supplying section for dissolving, with a base, a part of crystals precipitated by crystallization in the first reaction vessel;

a liquid circulating section connecting the first reaction vessel with the second reaction vessel, the liquid circulating section being for circulating reaction liquid between the first reaction vessel and the second reaction vessel.